L 17602-63 EWT(m)/BDS AFFTC/ASD S/056/63/044/003/015/053

55
54

AUTHOR: Dolbilkin, B. S.; Zinevalov, V. A.; Korpin, V. I., and Nikolayev, F. A.

19

TITLE: Shape of the bremsstrahlung spectrum near the high frequency limit

PERIODICAL: Zhurnal eksperimental'noy i tekhnicheskoy fiziki, v. 44, no 3, 1963, 866-867

TEXT: There existed reasons for the belief that the bremsstrahlung cross section curves calculated by L. I. Schiff (Ref. 1: Phys. Rev., 83, 252, 1951) are not correct near the upper limit of the γ-quantas because of the probable failure of the Born approximation in this region. Consequently, the shape of a bremsstrahlung spectrum with an end point energy of 17.15 Mev was investigated with a magnetic pair spectrometer with a resolution ~150 kev near the high frequency limit. It is shown that in the measured energy range the shape of the spectrum can be satisfactorily described by the relation derived by Schiff, although this agreement is most probably accidental. There is 1 figure.

Card 1/2

L 17602-63 S/056/63/044/003/015/053

Shape of the bremsstrahlungspectrum...

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute im. P. N. Lebedev of the Academy of Sciences USSR

SUBMITTED: October 17, 1962

Card 2/2

BOGDANKEVICH, O.V.; GORYACHEV, B.I.; ZAPEVALOV, V.A.

Splitting of giant resonance in certain medium-heavy nuclei. Zhur. eksp. i teor. fiz. 42 no.6:1502-1514 Je '62. (MIRA 15:9)

1. Fizicheskiy institut imeni P.N. Lebedeva AN SSSR.
(Nuclear reactions)
(Neutrons)

DOLGILKIN, B.S.; ZAPEVALOV, V.A.; KORIN, V.I.; NIKOLAYEV, F.A.

Shape of the bremsstrahlung spectrum near the upper limit. Zhur. eksp. i teor. fiz. 44 no.3:866-867 Mr '63. (MIRA 16:3)

1. Fizicheskiy institut imeni P.N.Lebedeva AN SSSR.
(Bremsstrahlung) (Spectrometry) (Photonuclear reactions)

ZAPEVALOV, V.A.; LEYKIN, Ye.M.

Chronotron type coincidence circuit. Prib. i tekh. eksp. 7 no.2:64-65 Mr-Ap '62. (MIRA 15:5)

1. Fizicheskiy institut AN SSSR.
(Electronic circuits) (Electronic measurements)

S/056/62/042/006/016/047
B104/B102

AUTHORS: Bogdankevich, O. V., Goryachev, B. I., Zapevalov, V. A.

TITLE: The splitting of the giant resonance in medium nuclei

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 6, 1962, 1502-1514

TEXT: The yield of photoneutrons from Rh^{103}, Ag^{107}, In^{115}, Tb^{159}, and Ta^{181} in the region of E_γ^{max} between the threshold energy of the (γ,p) reaction and 23 Mev was measured with the help of the 30-Mev synchrotron of the FIAN. The method of measurement adopted (Fig. 1) very largely eliminated instrument drift and simplified the experiment. The absorption cross sections of the quanta are computed from the measured yield (Fig. 10). A splitting of the giant resonance of Rh, In, Tb, and Ta nuclei was detected; it is explained as being due to the deviation of the nuclei from spherical symmetry. Indications of a possible nonaxiality of the Tb^{159} nuclei were also found. There are 11 figures and 3 tables.

Card 1/0 2

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute imeni P. N. Lebedev of the Academy of Sciences USSR)

SUBMITTED: February 4, 1962

Fig. 1. Experimental arrangement.
Legend: (1) synchrotron, (2) target, (3) paraffin, (4) concrete, (5) monitor, (6) BF_3 counter, (7) sample, and (8) photomultiplier.

Fig. 10. γ-ray absorption cross section of Tb^{159}.
Legend: (1) millibarn.

Card 2/0 2

ALEKSANDROV, Yu.M.; GRUSHIN, V.F.; ZAPEVALOV, V.A.; LEYKIN, Ye.M.

Photoproduction of π^+-mesons on hydrogen. Dokl. AN SSSR 160 no.4: 796-798 F '65. (MIRA 18:2)

1. Fizicheskiy institut im. P.N. Lebedeva AN SSSR. Submitted July 27, 1964.

21403

S/120/61/000/002/014/042
E192/E382

9.7500

AUTHOR: Zapevalov, V.A.

TITLE: A Reliable Circuit for the Triggering of Dekatrons

PERIODICAL: Pribory i tekhnika eksperimental, 1961, No. 2, pp. 86 - 87

TEXT: A correct operation of a dekatron counting stage can be obtained by means of a single triode (or by means of one-half of a double triode) provided its electrodes are kept at suitable potentials and the amplitudes and shapes of the pulses which transfer the discharge are chosen correctly. The situation is illustrated in Fig. 1 (Ref. 1), where the pulses U_{n2} appearing at the anode are plotted in normalised coordinates as a function of $\beta = RC/\tau$ and t/τ, where τ is the time constant corresponding to the pulse U_{n1}. The quantity $\Delta U'$ plays an important part in this circuit during the transition of the discharge from the first to the second auxiliary cathode and the reliability of the dekatron operation is largely dependent on it. For the dekatrons,

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type 10CT-1B (10SG-1B), this quantity $\Delta U'$ should be about 20 V. As can be seen from the curves of Fig. 1a, this requirement is difficult to meet since an increase in $\Delta U'$ is related to the increase of β and this results in a great loss of the amplitude of the pulse U_{n2} and leads to the decrease in the reliability of the dekatron. However, if the circuit shown in Fig. 1b (Curve U'_{n1}) is used for shifting the discharge, it is easy to obtain $\Delta U''$ of the required magnitude. The curves of Fig. 1 give only a qualitative picture since they do not take into account the transient time of the pulse on the zero electrode or the possibility of overdriving the grids of the drive tubes. However, this method of equalising the drive pulses by means of R_1 and R_2 (Fig. 1) can be used successfully in driving dekatrons of the type 10SG-1B as well as type EG-5 (YeG-5), provided the currents of the dekatrons are kept within the prescribed values. The counter based on this drive can operate reliably

A Reliable Circuit ....

up to 5 kc/s if a rectangular input pulse having a duration of 60 μs and an amplitude of 80 V is applied to the drive tubes. There are 3 figures and 1 Soviet reference..

ASSOCIATION: Fizicheskiy institut AN SSSR
(Physics Institute of the AS USSR)

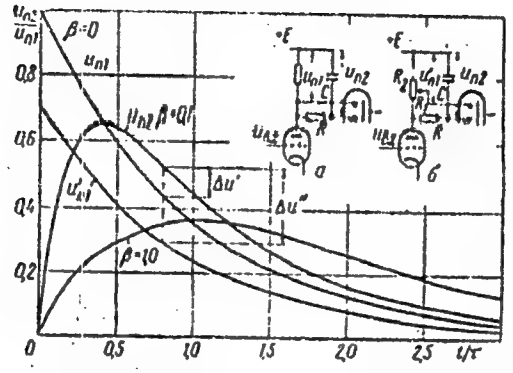
SUBMITTED: April 25, 1960

Card 3/4

S/120/61/000/002/014/042
E102/E382

A Reliable Circuit ....

Fig. 1:



Card 4/4

L 1570-66 EWT(m)/EWA(h)

ACCESSION NR: AP5019216 UR/0056/65/049/001/0054/0065

AUTHOR: Aleksandrov, Yu. M.; Grushin, V. F.; Zapevalov, V. A.; Leykin, Ye. M.

TITLE: Photoproduction of positive pions from protons at photon energy 230 Mev and determination of the $\gamma\pi p$ coupling constant

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 1, 1965, 54-65

TOPIC TAGS: pion, muon, particle production, angular distribution, meson interaction

ABSTRACT: In view of the contradictory results of earlier measurements, the authors measured the differential cross section and the angular distribution for the photoproduction of π^+-mesons from protons at photon energy 230 Mev for the c.m.s. angles 0, 38, 82, 90, 116, 138, 146, and 180°. The experiment was performed in the bremsstrahlung beam of the 265-Mev synchrotron at FIAN (Physics Institute of the Academy of Sciences). The experimental set-up is illustrated in Fig. 1 of the Enclosure. The apparatus and data-processing procedure are described in detail. The π^+-mesons of given energy were detected by a method involving identification of the particles from their momentum and range in matter, using a magnetic spectrometer and a detector of pion stoppings, comprising a plastic-scintillation-counter telescope con-

Card 1/3

L 1570-66

ACCESSION NR: AP5019216

taining a copper absorber of fixed thickness. The charged-particle trajectories were traced by the hot-wire method. Positive pions stopped in one of the counters were reliably identified from the $\pi \to \mu$ decay, which occurred with a characteristic time $\tau_\pi = 2.55 \times 10^{-8}$ sec. Momentum analysis of the particles was performed at 0 and 180°, and at the remaining angles only the stopping detector was used. The mean statistical accuracy was ± (3--4)%. Comparison of the experimental data with a calculation based on disperaion relations (M. I. Adamovich et al., Trudy FIAN v. 34, 1965, in press) and the use of a suitably plotted likelihood function yielded for the $\gamma\pi p$ constant a value (0.63 ± 0.11)ef (e = electron charge, f = interaction constant). The square of the interaction constant was found to equal 0.07 ± 0.11. A note added in proof, however, indicates that according to later data the foregoing numerical values are in error. "The authors thank P. A. Cherenkov for collaboration, A. I. Lebedev for a discussion of several problems touched upon in the paper, R. A. Latypova and M. S. Kuchumova for programming the computations, and A. M. Zinevich and K. I. Yablonin for help with the work. "Orig. art. has: 10 figures, 2 formulas, and 2 tables."

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute, Academy of Sciences, SSSR)

SUBMITTED: 29Jan65	ENCL: 01	SUB CODE: NP	
NR REF SOV: 011	OTHER: 017		

Card 2/3

L 1570-66
ACCESSION NR: AP5019216

ENCLOSURE: 01

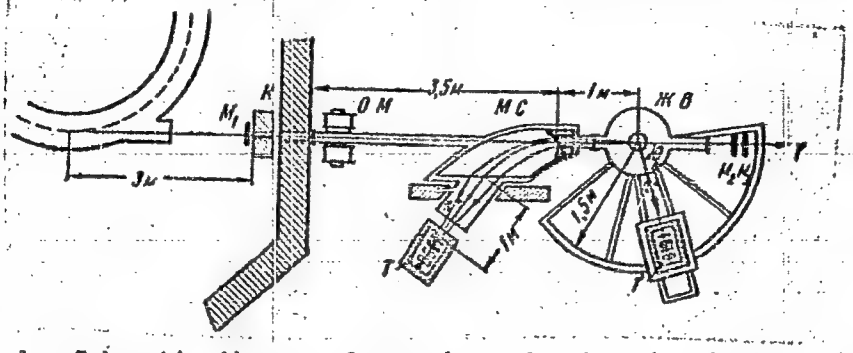


Fig. 1. Schematic diagram of experimental setup. K - lead collimators, OM - clearing magnet, MS - magnetic spectrometer, ЖВ - liquid hydrogen target, M_1, M_2, M_3 - monitor ionization chambers, T - scintillation counter telescope.

Card 3/3

DOLBILKIN, B. S.; ZAPEVALOV, V. A.; KORIN, V. I.; LAZAREVA, L. Ye.; NIKOLAYEV, F. A.

"Gamma absorption cross-section of Mg and Al nuclei in the giant resonance region."

report submitted for Intl Conf on Low & Medium Energies Nuclear Physics, Paris, 2-8 Jul 64.

GRUSHIN, V.F.; ZAPEVALOV, V.A.; LEYKIN, Ye.M.

Cherenkov's gamma spectrometer with total absorption. Prib.i tekh. eksp. no.2:27-32 Mr-Ap '60. (MIRA 13:7)

1. Fizicheskiy institut AN SSSR.
(Spectometer) (Gamma rays--Spectra)

ZAPEVALOV, V.A.

Reliable circuit for triggering decatrons. Prib. i tekh. eksp. 6 no.2:86-87 Mr-Ap '61. (MIRA 14:9)

1. Fizicheskiy institut AN SSSR.
(Nuclear counters)

24.6810

82875
S/120/60/000/02/006/052
E032/E414

AUTHORS: Grushin, V.F., Zapevalov, V.A. and Leykin, Ye.M.

TITLE: A Total Absorption Cherenkov Gamma Spectrometer 19

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, Nr 2, pp 27-32 (USSR)

ABSTRACT: A description is given of a total absorption Cherenkov gamma spectrometer using a lead glass radiator to record gamma radiation up to 250 MeV. The radiator was chosen to be in the form of a uniform cylindrical block 28 cm in diameter and 22 cm long (11.8 t-units and 9.3 t-units respectively) and was made from TF-1 glass having an absorption coefficient of 0.2 to 0.3. The gamma spectrometer was in the form of a steel cylindrical frame with the radiator fixed to its front (Fig 2). The cylindrical surface of the radiator was covered by aluminium foil and one of the flat surfaces by a polished silver mirror. The light was collected by seven FEU-24 photomultipliers from the front surface of the radiator. The photomultipliers had a resolution of 10 to 12% measured on the Cs^{137} photopeak. The area covered by the photomultiplier cathodes was about 50% of

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A Total Absorption Cherenkov Gamma Spectrometer

the plane face of the radiator. On the front wall of the frame and in the mirror, an aperture was made capable of taking a standard sodium iodide crystal which was used to check the working of the spectrometer. The frame, the glass and the photomultipliers were placed in a steel tube which ensured that no extraneous light reached the device and also acted as a magnetic screen for the photomultipliers. In addition, provision was made for further magnetic screening of the photomultipliers by means of soft-iron or permalloy cylinders which surrounded each of the photomultipliers. Pulses from the photomultiplier anodes were fed into the cathode followers which could be used to regulate the magnitude of the signal and were followed by an adding circuit attached to the rear wall. In addition to the adding circuit, the apparatus included a gating circuit and a 10-channel kicksorter. The gating circuit was specially designed for use in the calibration of the gamma-spectrometer and ensured linear transmission of the signal from the gamma-spectrometer to the kicksorter when the gating

A Total Absorption Cherenkov Gamma Spectrometer

pulse was applied to it. The spectra were examined with a simple 10-channel kicksorter having a mechanical counter at its output. The characteristics of the gamma-spectrometer were investigated on the 265 MeV synchrotron of the Physics Institute of the Academy of Sciences USSR. Fig 4 shows the results of a determination of the resolution of the gamma spectrometer using electrons having a 10% energy spread. Fig 5 shows the dependence of the amplitude of the output pulse on the electron energy. As can be seen, the instrument is linear in the energy range indicated. Fig 6 shows the energy dependence of the resolution of the gamma-spectrometer. Fig 8 shows the resolution of the various gamma spectrometers built in different laboratories. The curve marked 5 represents the present results. As can be seen, the present spectrometer has the best energy resolution but the dependence of the resolution on energy is somewhat different as compared with the other instruments. The work on the development of the present spectrometer was completed in 1957 (Ref 5). It was

4

L 20704-66 EWT(m)/T

ACC NR: AP6012026 SOURCE CODE: UR/0020/65/160/004/0796/0798

AUTHOR: Aleksandrov, Yu. M.; Grushin, V. F.; Zapevalov, V. A.; Leykin, Ye. M.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR (Fizicheskiy institut AN SSSR)

TITLE: Photoproduction of Pi sup + -mesons on hydrogen

SOURCE: AN SSSR. Doklady, v. 160, no. 4, 1965, 796-798

TOPIC TAGS: pi meson, synchrotron, scintillation counter, particle accelerator target, liquid hydrogen, angular distribution

ABSTRACT: Theoretical consideration of the contribution made by the resonance $\pi - \pi$ interaction (ρ-meson) to photoproduction amplitudes has made it possible by comparing experimental data with theory -- to obtain the constant $\Lambda_{\gamma\pi\rho}$ of such interaction. The present article deals with the measurement of the angular distribution of π^+-mesons from the reaction $\gamma + p \rightarrow \pi^+ + n$, given E_γ = 230 Mev. A diagram of the experiment and a block diagram of the apparatus are given. The synchrotron of the Physics Institute imeni P. N. Lebedev of the USSR Academy of Sciences was used, with a liquid-hydrogen target and three scintillation counters. The number of delayed coincidences N_μ during several delays in a triple coincidence channel was measured for each of six angles. An analysis of the spread of individual values of N_μ relative to the mean value $\bar{N}_\mu$, obtained from several dozen measurements, revealed the presence of purely statistical fluctuations. The

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L 20704-66
ACC NR: AP6012026

4

quantity $\bar{N}_\mu$ was scaled to the number of stopped π^+-mesons in the third counter $\bar{N}_\pi$. The basic results are presented in a table. A comparison of the resulting differential cross-sections with the results of the calculations made by A. I. LEBEDEV and S. P. KHARLAMOV on the basis of the dispersion relations for different values of the constant $\gamma\pi\rho$ makes it possible to obtain an estimate of the quantity $\Lambda\gamma\pi\rho$ (in units of e and f). For this purpose a likelihood function was constructed. This paper was presented by V. I. Veksler on 27 July 1964. The authors thank P. A. Cherenkov for his assistance in completing this work, and also A. I. Lebedev and S. P. Kharlamov for presenting the necessary calculation results. Orig. art. has: 2 figures and 1 table. [JPRS]

SUB CODE: 20 / SUBM DATE: 28Jun64

Card 2/2 12K

ZAPEVALOVA, N.P.; SOKOLOVA, T.A.; BAZHENOV, N.M.; KOL'TSOV, A.I.

Method of preparing N-substituted β-lactams. Dokl. AN SSSR 150 no.3:551-554 My '63. (MIRA 16:6)

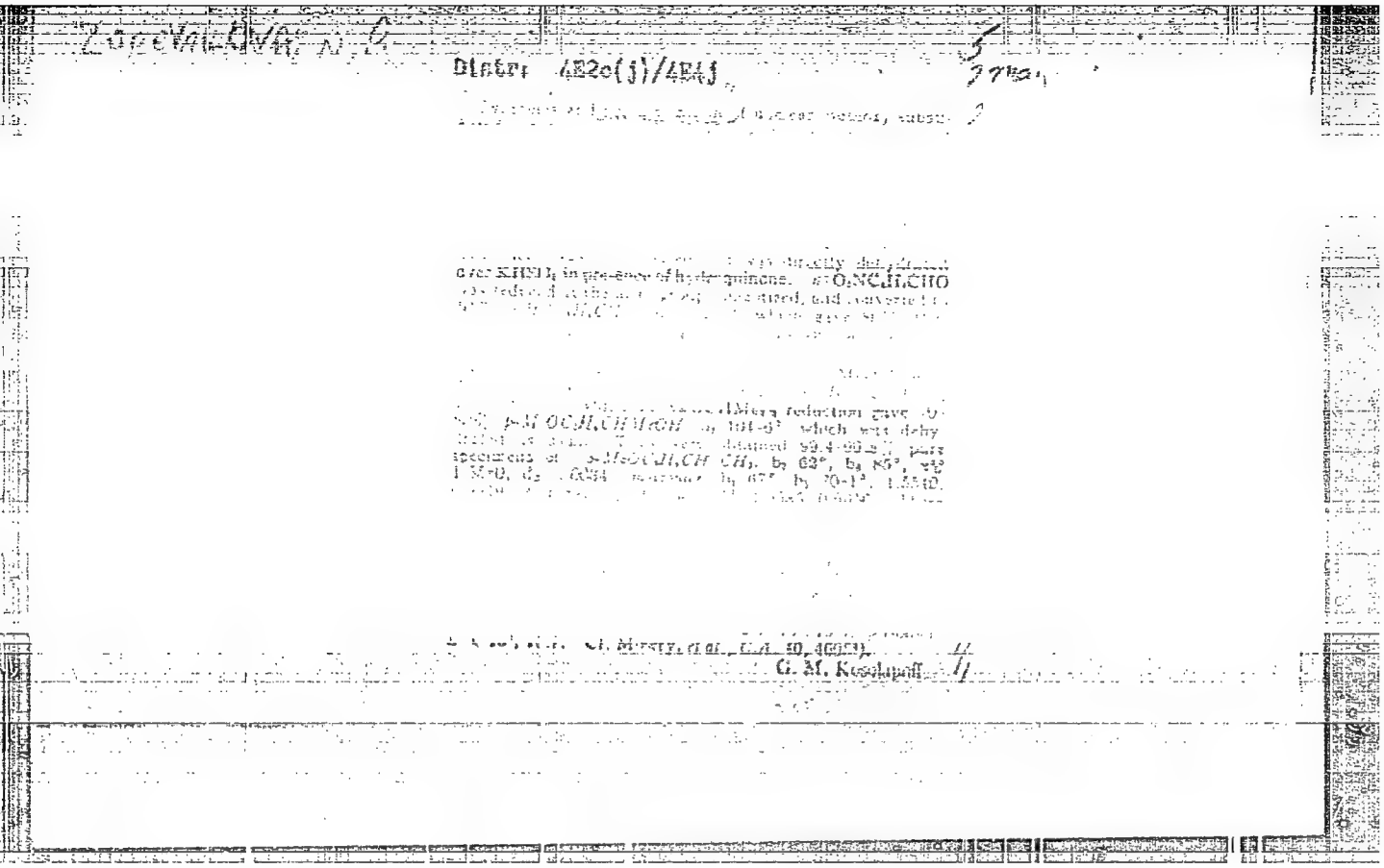
1. Institut vysokomolekulyarnykh soyedineniy AN SSSR. Predstavleno akademikom A.Ye. Arbuzovym.
(Lactams)

ZAPHVALOVA, N.P.

ZAPHVALOVA, N.P.; KOTON, M.M.

Synthesis and polymerization of methoxy-substituted (in the ring) styrenes. Part.1: Synthesis and polymerization of nonmethoxystyrenes. Zhur. ob. khim. 27 no.8:2138-2142 Ag '57. (MLRA 10:9)

1. Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR.
(Styrene) (Anisole)



SOKOLOVA, T.A.; KOL'TSOV, A.I., ZAPEVALOVA, N.P.; OVSYANNIKOVA, L.A.

Interaction of N,N-dimethylhydrazine with derivatives of α,β-unsaturated acids. Izv.AN SSSR.Ser.khim. no.9:1727 S '64. (MIRA 17:10)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

5(3) SOV/79-29-9-19/76

AUTHORS: Zapovalova, N. P., Koton, M. M.

TITLE: Synthesis and Polymerization of Styrenes Methoxy-substituted in the Ring. III. Synthesis and Polymerization of Trimethoxy Styrenes

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol, 29, Nr 9, pp 2900-2905(USSR)

ABSTRACT: Together with the systematic investigation of the influence exerted by the introduction of methoxy groups in the styrene ring on polymerizability and properties of the resulting polymers (Ref 1), an investigation of the hitherto undescribed trimethoxy styrenes was made by synthesizing 2,3,4- and 2,4,6-trimethoxy styrenes, with pyrogallol and phloroglucin being used as initial products. The syntheses of these trimethoxy styrenes took place according to the general scheme 1, by using pyrogallol as initial product. The hitherto unknown carbinols (IV), (VI), (V) were obtained and characterized according to this scheme. The attempt of dehydrating compound (VI) resulted in the cleavage of acetaldehyde and the formation of compound (VII) (Scheme 2). The reduction of trimethoxy acetophenone (III) according to Meerwein and Poandorf (Ref 2) yielded carbinol (IV) and its ether, thus preventing pure trimethoxy styrene (V) from being formed. Compound (V) is poly-

Card 1/2

Synthesis and Polymerization of Styrenes Methoxy-substituted in the Ring. III. Synthesis and Polymerization of Trimethoxy Styrenes

merized on standing and heating, under formation of transparent colorless thermoplastic masses. To ascertain the influence exerted by the accumulation of methoxy groups in the styrene ring on polymerizability, the authors polymerized 2,3,4-trimethoxy styrene in the absence of an initiator and according to the dilatometric method in a special apparatus (Ref 1). For a comparison, the figure shows the polymerization data of mono- and di-methoxy styrenes as well as those of the non-substituted styrenes. This polymerization made at 100° revealed that the easiness by which 2,3,4-trimethoxy styrene is polymerized, is due to the presence of a methoxy group in ortho-position to the vinyl group of the substituted styrene. There are 1 figure, 1 table, and 9 references, 2 of which are Soviet.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR (Institute of High-molecular Compounds of the Academy of Sciences, USSR)

SUBMITTED: April 9, 1958

5.3700

77377
SOV/79-30-1-38/78

AUTHORS: Koton, M. M., Kiseleva, T. M., Zapevalova, N. P.

TITLE: Reactivity of Unsaturated Compounds of Tin and Lead

PERIODICAL: Zhurnal obshchey khimii, Vol 30, Nr 1, pp 186-190 (USSR)

ABSTRACT: The following compounds were synthesized: allyltriphenyllead (by the method of P. Austin [J. Am. Chem. Soc., 53 3514 (1931)]); allyltrimethyltin [Petrov, A. D., Mironov, V. F., Dolgiy, I. Ye., Izvest. Akad. nauk SSSR. Otdel. khim. nauk, 1956, 11467; vinyltrimethyltin [Seyferth, D., J. Am. Chem. Soc., 79, 515, 2133 (1957); J. Org. Chem., 22, 478 (1957)]; vinyltriphenyltin [ibid.]; divinyldiphenyltin [ibid.]; and tetravinyltin [ibid.] Experiments with thermal decomposition (which resulted in formation of akylmetal compound, followed by precipitation of metal) were performed by heating 1 g of compound in a sealed ampule at 100-300°. It was found that: (1) vinyl compounds of tin are more stable toward heating than the allyl compounds, which in turn

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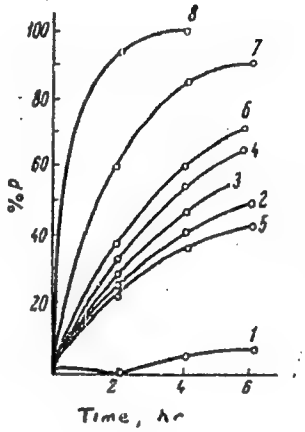
are more stable than the allyl compounds of lead; and (2) thermal stability decreases with increasing number of vinyl groups in the molecule of organometallic compound. The stability of vinyl derivatives of tin decreases in the order vinyltrimethyltin (stable up to 250°) > vinyltriphenyltin > divinyldiphenyltin > tetravinyltin (which begins to decompose at 170°.) In respect to their reactivity the investigated radicals can be arranged: allyl > phenyl > > vinyl. In reactions of allyltriphenyl lead with HCl (performed in an ampule connected to a gas burette the evolved propylene was absorbed in bromine-CCl_4 solution and the resulting solution was titrated with $Na_2S_2O_3$), the allyl radical is eliminated first, forming propylene:

$$(C_3H_5)Pb(C_6H_5)_3 + HCl \longrightarrow C_3H_6 + (C_6H_5)_3PbCl ,$$

(it was shown earlier /Seyferth, D., J. Am. Chem. Soc., 79, 515, 2133 (1957); J. Org. Chem., 22, 478 (1957); Rosenberg, S., Gibbons, A., et al., J. Am. Chem. Soc., 79, 2137 (1957)/ that in reactions of vinyl derivatives of tin of the formula $R_2Sn(CH=CH_2)_2$ with iodine, HCl and HBr, the radicals can be arranged according to the rate of their elimination in the order phenyl > vinyl > methyl > ethyl > propyl > butyl). Vinyl derivatives of tin do not polymerize under conditions of free radical polymerization --heating in presence of peroxides and azo-compounds (allyltriphenyllead decomposes at 120° in the presence of benzoyl- or tertiary-butyl peroxides with formation of free lead). All of the investigated lead and tin compounds inhibit free radical polymerization (at

120° in benzene solution) of styrene and, especially, methyl methacrylate (see Figs. 1 and 2).

Fig. 1. Polymerization of methyl methacrylate at 120° in presence of 5 weight % of unsaturated compounds of tin: (1) tetraallyltin; (2) allyltrimethyltin; (3) diallyldiphenyltin; (4) allyltriphenyltin; (5) tetravinyltin; (6) vinyltrimethyltin; (7) vinyltriphenyltin; (8) pure methyl methacrylate.



Reactivity of Unsaturated Compounds of Tin and Lead

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SOV/79-30-1-38/78

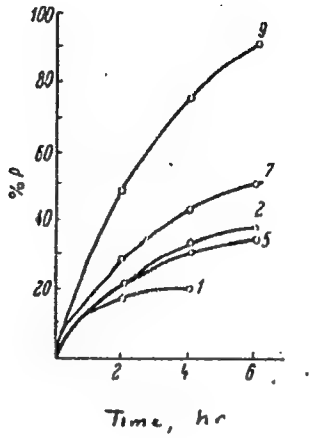

Fig. 2. Polymerization of styrene at 120° in presence of 5% by weight of unsaturated compounds of tin: (1) tetraallyltin; (2) allyltrimethyltin; (5) tetravinyltin; (7) vinyltriphenyltin; (9) pure styrene.

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Reactivity of Unsaturated Compounds of Tin and Lead

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SOV/79-30-1-38/78

By arranging the compounds shown in Figs. 1 and 2 in order of decreasing inhibiting action: tetraallyltin $\gg$ tetravinyltin $>$ allyltrimethyltin $>$ $>$ diallyldiphenyltin $>$ allytriphenyltin $>$ vinyltriphenyltin $>$ vinyltrimethyltin, it can be seen that the least stable compounds are the most active inhibitors. There are 2 figures; 2 tables; and 9 references, 2 Soviet, 1 German, 1 U.K., 5 U.S. The 5 most recent U.K. and U.S. references are: J. Brydson, Plastics, 1957, 384; H. Gilman, J. Eisch, J. Org. Ch., 20, 763 (1955), J. Am. Chem. Soc., 55, 4689 (1933); D. Seyferth, J. Am. Chem. Soc., 79, 515, 2133 (1957), J. Org. Ch., 22, 478 (1957); S. Rosenberg, A. Gibbons, H. Ramsder, J. Am. Chem. Soc., 79, 2137 (1957); G. Gilman, J. Am. Chem. Soc., 61, 735 (1939).

Card 6/7

Reactivity of Unsaturated Compounds of Tin and Lead

77377
SOV/79-30-1-38/78

ASSOCIATION: Institute of High-Molecular-Weight Compounds of the Academy of Sciences, USSR (Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR)

SUBMITTED: January 14, 1959

Card 7/7

ZAPEVALOVA, N.P.; SOKOLOVA, T.A.

Interaction of asymmetrically disubstituted hydrazines with derivatives of α,β-unsaturated acids. Report No.1: Formation of 1,1-dimethyl-3-pyrazolinium oxides. Izv. AN SSSR. Ser. khim. no.8:1442-1447 '65. (MIRA 18:9)

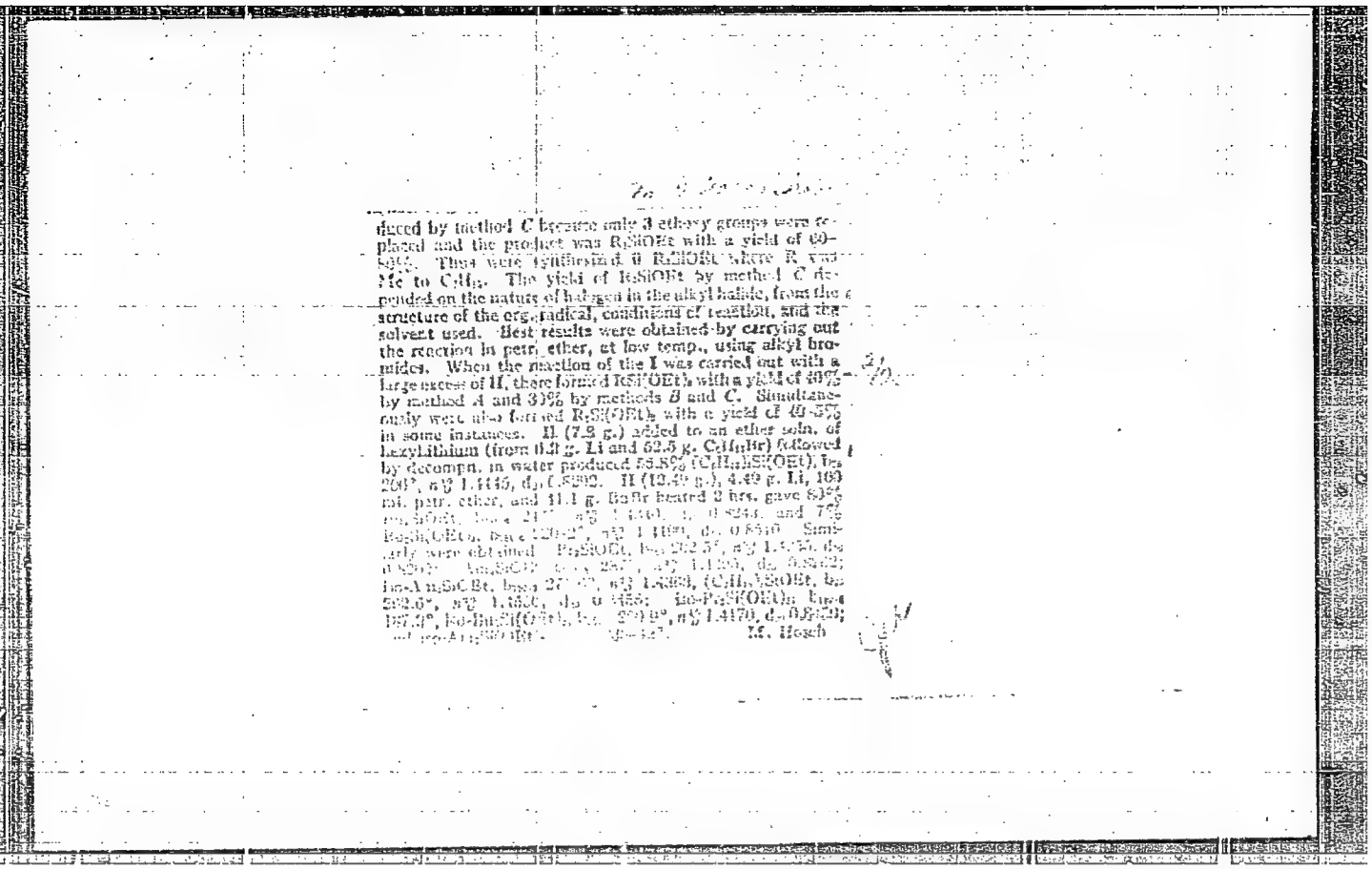
1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

SHAPEVALOVA, N.P.

USSR.

Interaction of [illegible]. Synthesis of [illegible] and their physical properties. [illegible] 103, Sv. Nauch. [illegible] No. 12, [illegible]; Referat. Zhur., Khim. 1954, No. [illegible]—The reaction between [illegible] in [illegible] was studied in order to find the best method for the synthesis of tetraalkylsilanes. Three methods were investigated: method A [illegible] combined with II and heated [illegible] the [illegible]. Method B [illegible] the soln. of I was not filtered, [illegible]. In method C the production of the [illegible] and its interaction with II was carried out simultaneously. Method A, [illegible] the molar ratio of the reactants, gave tetraalkylsilanes with a yield over 80% or trialkylsilanes, [illegible] with a yield of 70-80%. Si(OMe)₄ reacted analogously to II. By method B the yield dropped to 10-30%. Tetraalkylsilanes could not be pro-

[illegible]



duced by method C because only 3 ethoxy groups were replaced and the product was R_3SiOEt with a yield of 60–80%. These were synthesized in R_3SiOEt, where R was Me to C_6H_{13}. The yield of R_3SiOEt by method C depended on the nature of halogen in the alkyl halide, from the structure of the org. radical, conditions of reaction, and the solvent used. Best results were obtained by carrying out the reaction in petr. ether, at low temp., using alkyl bromides. When the reaction of the I was carried out with a large excess of II, there formed $R_2Si(OEt)_2$ with a yield of 40% by method A and 30% by methods B and C. Simultaneously were also formed $R_3Si(OEt)$ with a yield of 40–50% in some instances. II (7.8 g.) added to an ether soln. of hexyllithium (from 0.8 g. Li and 62.5 g. $C_6H_{13}Br$) followed by decompn. in water produced 55.8% $(C_6H_{13})_3SiOEt$, b_{20} 201°, n_D^{20} 1.4445, d_4^{20} 0.8592. II (12.49 g.), 4.49 g. Li, 103 ml. petr. ether, and 31.1 g. BuBr heated 2 hrs. gave 63% Bu_3SiOEt, b_{760} 217°, n_D^{20} 1.4461, d_4^{20} 0.8245, and 7% $Bu_2Si(OEt)_2$, b_{760} 220–2°, n_D^{20} 1.4081, d_4^{20} 0.8510. Similarly were obtained Pr_3SiOEt, b_{20} 202.5°, n_D^{20} 1.4230, d_4^{20} 0.8503; Am_3SiOEt, b_{20} 285°, n_D^{20} 1.4455, d_4^{20} 0.8562; iso-Am_3SiOEt, b_{760} 270–2°, n_D^{20} 1.4383, $(C_5H_{11})_2SiOEt$, b_{20} 262.6°, n_D^{20} 1.4350, d_4^{20} 0.8455; iso-$Pr_2Si(OEt)_2$, b_{760} 187.2°, iso-$Bu_2Si(OEt)_2$, b_{20} 220.8°, n_D^{20} 1.4170, d_4^{20} 0.8503; [illegible] M. Hosh

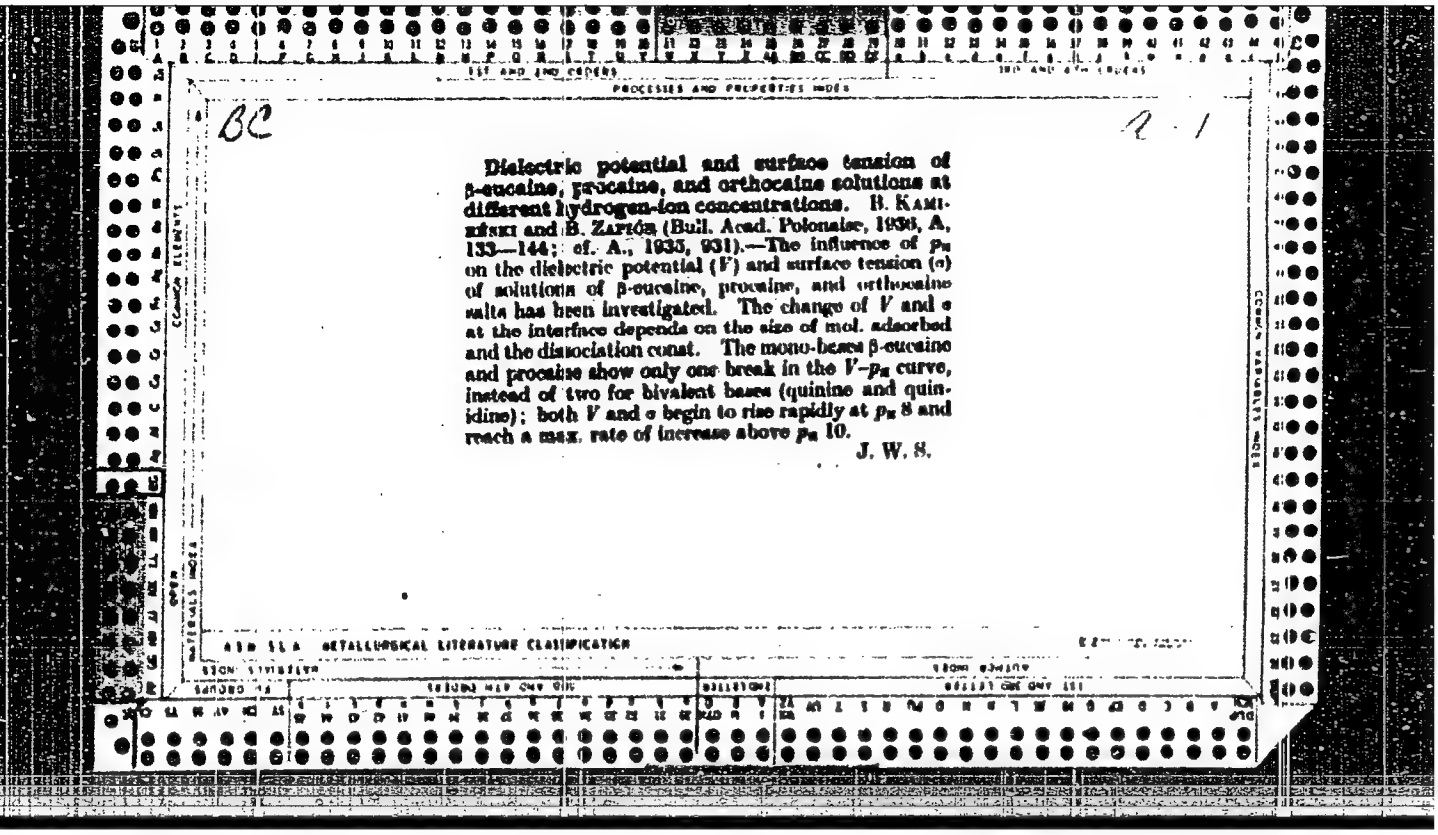
ZAPEVIN, Leonid Vasil'yevich; KONOVALOV, A.S., red.; KHLOBORDOV, V.I., tekhn. red.

[Industries of the Kuban in the years of the seven-year plan] Promyshlennost' Kubani v gody semiletki. Krasnodar, Krasnodarskoe knizhnoe izd-vo, 1960. 69 p. (MIRA 15:7)
(Kuban--Industries)

COFOVA, M.; HLOUSKOVA, Z.; ZAPIETAL, A.

Normal respirometric level in healthy children. Cesk. pediat. 18 no.10:915-921 O '63.

1. II detska klinika fakulty detskeho lekarstvi KU v Praze, prednosta prof. dr. J. Houstek, DrSc. Detska klinika fakultni nemocnice pod Petrinem, prednosta prof. dr. K. Kubat.
(SPIROMETRY) (RESPIRATORY FUNCTION TESTS)



BC

2 · 1

Dielectric potential and surface tension of β-eucaine, procaine, and orthocaine solutions at different hydrogen-ion concentrations. B. KAMIŃSKI and B. ZARTÓS (Bull. Acad. Polonaise, 1936, A, 133—144; cf. A., 1935, 931).—The influence of p_H on the dielectric potential (V) and surface tension (σ) of solutions of β-eucaine, procaine, and orthocaine salts has been investigated. The change of V and σ at the interface depends on the size of mol. adsorbed and the dissociation const. The mono-bases β-eucaine and procaine show only one break in the V–p_H curve, instead of two for bivalent bases (quinine and quinidine); both V and σ begin to rise rapidly at p_H 8 and reach a max. rate of increase above p_H 10.

J. W. S.

ZAPIOR, Bronislaw; CZAPKIEWICZ, Jan

Electrocapillary properties of aqueous solutions of α,β,γ-aminophenylpropanes. Rocz chemii 36 no.12:1863-1871 '63.

1. Department of General Chemistry, Jagellonian University, Krakow.

ZAPIOR, Bronislaw; GOLEBIOWSKA, Aleksandra

Studies on the discovery of [redacted]purpurea glycosides by paper chromatography; analysis of the percolates. Chem anal 7 no.4:855-858 '62.

1. Department of General Chemistry, Jagiellonian University, Krakow.

S/081/62/000/024/016/073
B117/B186

AUTHOR: Zapiór, Bronisław

TITLE: Adsorption potential and surface tension of aqueous solutions of simple methyl ketones

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24, 1962, 143, abstract 24B971 (Roczn. chem., v. 36, no. 2, 1962, 335-344 [Pol.; summaries in Russ. and Eng.])

TEXT: Dimethyl ketone, methyl-ethyl ketone, methyl-propyl ketone, methyl-butyl ketone, and methyl-amyl ketone were studied as to their surface properties. The equation of Sheshkovskiy was used to calculate the adsorption potential of ketones. Within a wide range of concentration, the data calculated were in good agreement with the experimental data obtained by the method of Kamenskiy. A marked parallelism was noted between the adsorption potential and the surface tension of aqueous solutions of ketones. [Abstracter's note: Complete translation.]

1. Department of General Chemistry, Jagiellonian University, Krakow

Card 1/1

ZAPIOR, B.

Heat of exchange on ion-exchange resins. B. Zapiór and M. Leszko (Univ., Kraków, Poland). *Zeszyty Nauk. Uniw. Jagiel., Ser. Nauk Mat.-Przyrod., Mat., Fiz., Chem.* No. 4, 207–11(1958)(English summary).—The following heats of exchange on Wofatite F of the respective ions from aq. dil. solns. were found: Na 530, NH_4 970, K 1720, Mg −300, Ca +50, Sr 580, Ba 930, and Al 3500 cal./g. equiv. The decrease in the ionic radius on passage to ion exchanger from the soln. was estd.

J. Stecki

Country : POLAND E
Category : Analytical Chemistry. Analysis of Organic Substances
Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15143

Author : Zapior, B.; Sliwa, B.
Institut. :
Title : Use of a Potentiometric Method for the Detection of Bands of Quinine and Codeine on Paper Chromatograms
Orig Pub. : Roczn. chem., 1958, 32, No 2, 397-402

Abstract : The possibility of the detection of quinine (Q) and codeine (C) on chromatograms by a potentiometric method was investigated. Q and C are chromatographed on Whatman No 1 paper at 18° for 3-3.5 hours, using as a developer a mixture of 180 ml. of water, 80 ml. of glycerin and 2 ml. of a 6% solution of NH_3. The R_f of Q is 0.75-0.77, and that of C is 0.93-0.96. Chromatograms are dried at 100° for 30 minutes, moistened with 0.01 n. HCl and placed

Card: 1/3

ZAPIOR, Bronislaw, GOLEBIOWSKA, Aleksandra

Effect of light on the course of chromatographic analysis of hydrastine-containing solutions. Prace chem Krakow no.9:87-93 '64.

1. Department of General Chemistry of Jagiellonian University, Krakow. Submitted September 14, 1962.

ZAWISZA, Bronislaw; LESZKO, Basia

The membrane electrode. Prace chem Krakow no.9:95-99 '64.

1, Department of General Chemistry of Jagiellonian University, Krakow. Submitted January 7, 1963.

ZAJIC, Bronislaw; STWG ZEWICK, Tomasz

Effect of the temperature, particle size, bed height, and flow rate on the deionization of glycerine water while using the ion exclusion method. Prace chem Krakow no.9:101-112 '64.

1. Department of General Chemistry of Jagiellonian University, Krakow. Submitted October 31, 1962.

ZAFIOR, Bronislaw; PLATEK, Jerzy

Application of the electrometric contact method in paper chromatography of some organic acids. Rocz chemii 33 no.4/5:1159-1165 '59.
(EEAI 9:9)

1. Katedra Chemii Ogolnej Uniwersytetu Jagiellonskiego, Krakow.
(Electrometer) (Tartaric acid) (Succinic acid)
(Chromatography) (Antimony) (Electrodes)
(Citric acid)

ZAPIOR, B.

Obtaining permutit. p. 381
(GAZ, WODA I TECHNIKA SANITARNA, Vol. 30, No. 10, Oct. 1956 Warsaw, Poland)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 9 Sept. 1957 Uncl.

ZAPIER, Bronislaw

POLAND / Physical Chemistry. Electrochemistry. B

Abs Jour: Ref Zhur-Khimiya, No 17, 1958, 56867.

Author : Zapior Bronislaw.
Inst : Not given.
Title : Electrocapillary Properties of Certain Naphthalene, Tetrahydronaphthalene and Anthraquinone Derivatives.

Orig Pub: Zesz. nauk. Uniw. Jagiell, 1957, No 14, 71 - 87.

Abstract: The surface tension σ and potential jumps ΔV on the solution-air boundary for aqua solutions (contents 0.1 mole per liter KCl) of the following compounds were measured: β-naphthalene - sulfo acid (I), Na - salt of α-naphthalene - sulfo acid (II), Na - salt of 2-naphthylamine - 1 - sulfo acid (III), 2 -amino -8-naphthol -6 -sulfo acid (IV), Na -salt of anthraquinone -1 -sulfo acid, ac -tetrahydro - β-naphthaleneamine

Card 1/3

POLAND / Physical Chemistry. Electrochemistry. B

Abs Jour: Ref Zhur-Khimiya, No 17, 1958. 56867

Abstract: (Δ V,pH) indicates a parallelism between the absorption and electric effects in the VI and VII solutions. The dissociation constants for both bases were determined on the basis of data obtained with the aid of the Kamensky equation, as well as on the basis of a graphic analysis of the $\int \Delta V/100$ (1-), pH ratio.

Card 3/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001963810012-0"

ZAPIOR, B.; PLATEK, J.; KALETA, J.

Polycyclic aromatic hydrocarbons in the smoke of some home-produced cigarettes. p. 243.

ROCZNIKI CHEMII. (Polska Akademia Nauk) Warszawa, Poland, Vol. 33, no. 1, 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 9, September 1959. Uncl.

ZAPIOR, Bronislaw

Electrocapillary action of some ampholytes and their dissociation.
Rocz chemii 34 no.1:221-232 '60. (EEAI 10:9)

1. Institute of General Chemistry, Jagellonian University, Krakow.

(Electrocapillary phenomena)

L 29010-66 EWT(1) IJP(c) WW/GG

ACC NR: AP6018842 SOURCE CODE: UR/0051/66/020/001/0108/0116

AUTHOR: Valiyev, K. A.; Zapirov, M. M.

35
B

ORG: none

TITLE: Theory of line width of electron paramagnetic resonance of Cussup 2+ ions in aqueous solution

SOURCE: Optika i spektroskopiya, v. 20, no. 1, 1966, 108-116

TOPIC TAGS: electron paramagnetic resonance, copper, aqueous solution, line width

ABSTRACT: Calculation is performed for the width of the EPR line for Cu^{2+} ions in aqueous solution. It is shown that the main reason for broadening of the EPR line is a relazation movement of the electrons of an ion between the two low orbital levels. The broadening of the EPR line upon orbital transition of the ion is caused by the difference in the g-factor of the spin at these orbital levels. It is indicated under what conditions the transitions, with change of one quantum number, lead to "broadening" of the level characterized by another quantum number. Orig. art. has: 28 formulas. [JPRS]

SUB CODE: 20/ SUBM DATE: 19Aug64/ ORIG REF: 007 / OTH REF: 009

Card 1/1 BLG

UDC: 535.34:538.113.001

PEREMYKIN, Vasiliy Il'ich; SUSLOV, Viktor Maksimovich; DVORYADKIN, Nikolay Ivanovich; NAUMKOV, N.A., red.; ZAPIVAKHIN, A.I., red.

[Possibilities for lowering the cost of producing corn and sunflowers] Rezervy snizheniia sebestoimosti proizvodstva kukuruzy i podsolnechnika. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 137 p. (MIRA 14:2)
(Corn (Maize)) (Sunflowers)

MASHENKOV, Vladimir Fedorovich; ZAPIVAKHIN, A.I., red.; TRUKHINA, O.N., tekhn.red.

[Potentials for increasing labor productivity in Soviet agriculture] Rezervy rosta proizvoditel'nosti truda v sel'skom khoziaistve SSSR. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 142 p. (MIRA 14:3)
(Agriculture--Labor productivity)

BELOUSOV, Yu.A.; KORCHANOV, A.T.; RUDINSKIY, Ye.Ya.; STEPNOVA, Ye.V.; BANNIKOV, N.A., red.; ZAPIVAKHIN, A.I., red.; LAPIDUS, M.A., red.; RAKITINA, Ye.D., red.; TERESHCHENKO, N.I., red.; FREYDMAN, S.M., red.; BALLOD, A.I., tekhn.red.

[Manual on rural subsidiary enterprises] Spravochnik po sel'skim podsobnym predpriiatiiam. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 798 p. (MIRA 13:12)
(Manufactures) (Farm produce)

SOLOV'YEVA, Klavdiya Fedorovna, kand.ekonom.nauk; ZAPIVAKHIN, A.I., red.; PROKOF'YEVA, A.N., tekhn.red.; DEYEVA, V.M., tekhn.red.

[Fixed assets and working capital of a collective farm] Osnovnye i oborotnye sredstva kolkhoza. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 61 p. (MIRA 14:1)
(Moscow Province--Collective farms--Finance)

ZAPLETAL, B.

Wounds of the central nervous system; symptoms and first aid. Prakt. lek., Praha 33 no.13:286-288 5 July 1953 (CIML 25:1)

1. Of the Surgical Clinic (Head--Prof. V. Rapant, M.D.) of Palacky University, Olomouc.

ZAPLETALEK, A.

Research in the mechanism of brittle steel failure. p. 287.

ZVARANIE. (Ministerstvo hutneho prumyslu a rudnych bani a Ministerstvo strojareustva)
Bratislava, Estonia.
vol. 8, no. 9, Sept. 1959

Monthly List of East European Accessions (EEAI) LC, vol. 8, no. 11
November 1959

Uncl.

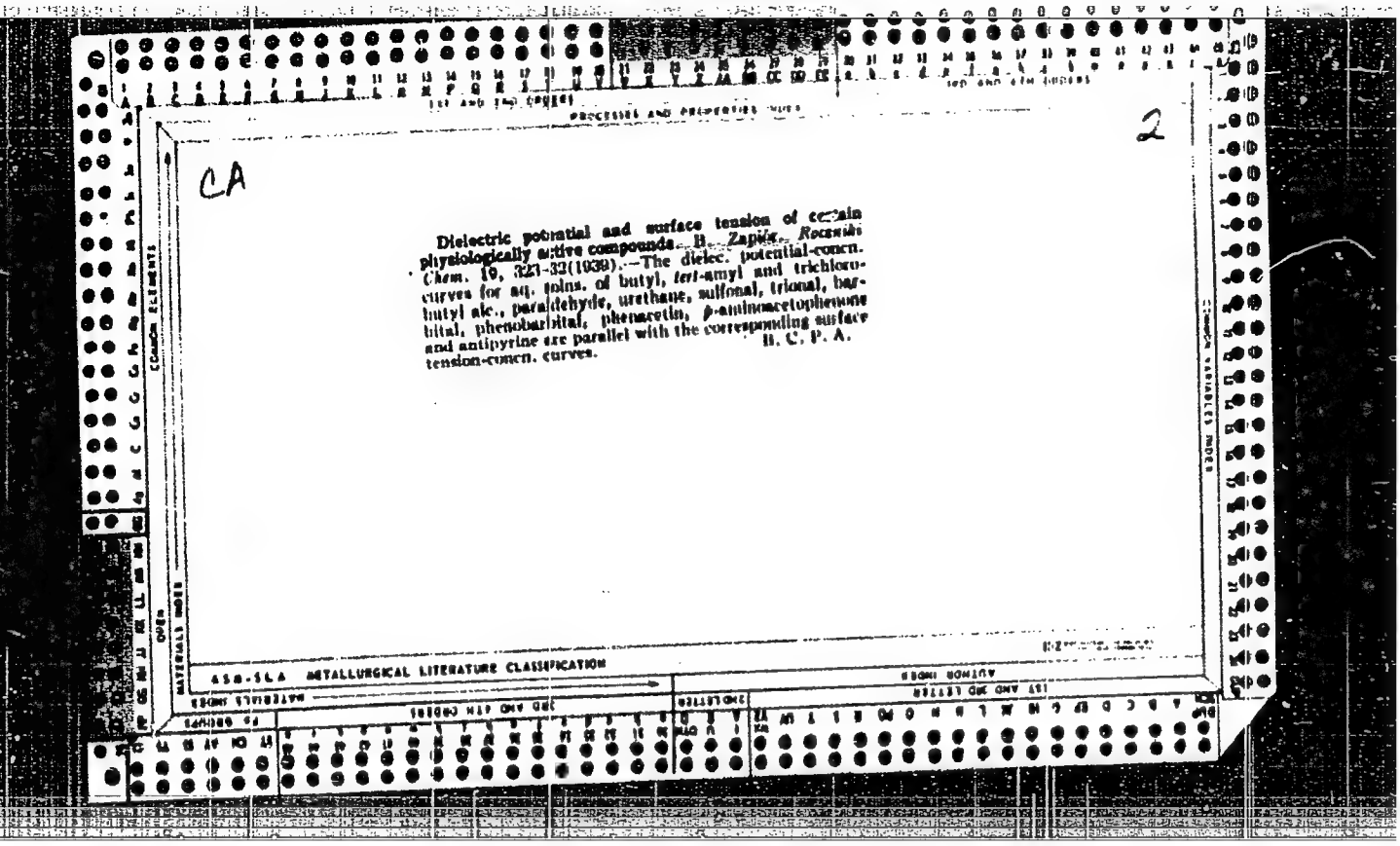
ZAPIVALOV, N.P.; ROZHCK, N.G.; SHPIL MAN, K.A.

Oil and gas fields in Tomsk Province. Neftegaz. geol. i geofiz. no.3:8-10 '64. (MIRA 17:5)

1. Novosibirskoye geologicheskoye upravleniye.

ZAPIVALOV, Nikolay Petrovich; SHPIL'MAN, Kal'man Abramovich; GORBATOVSKIY, I.V., red.

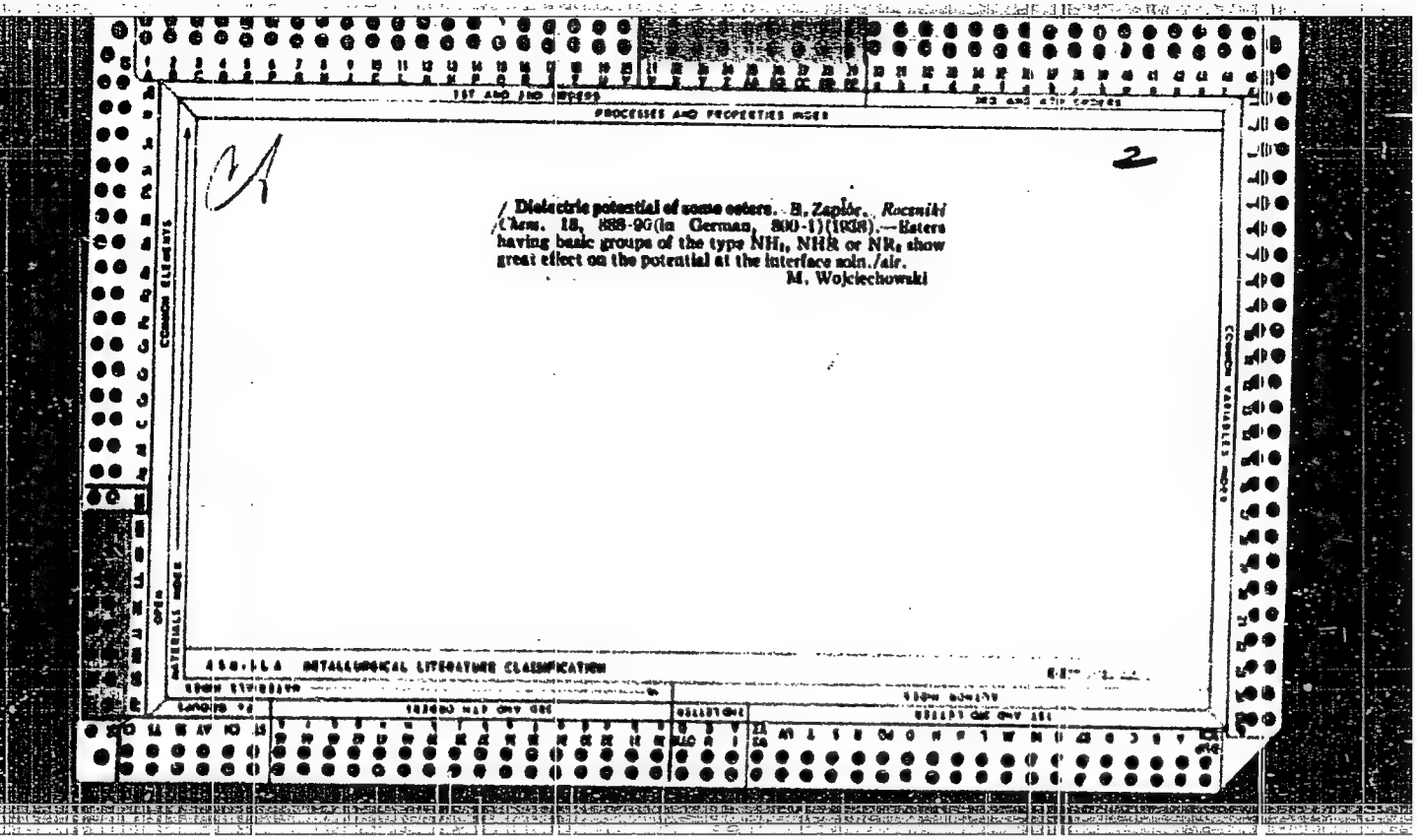
[There will be a "Siberian Baku"] Budet sibirskoe Baku. Novosibirsk, Novosibirskoe knizhnoe izd-vo, 1963. 52 p. (MIRA 17:3)



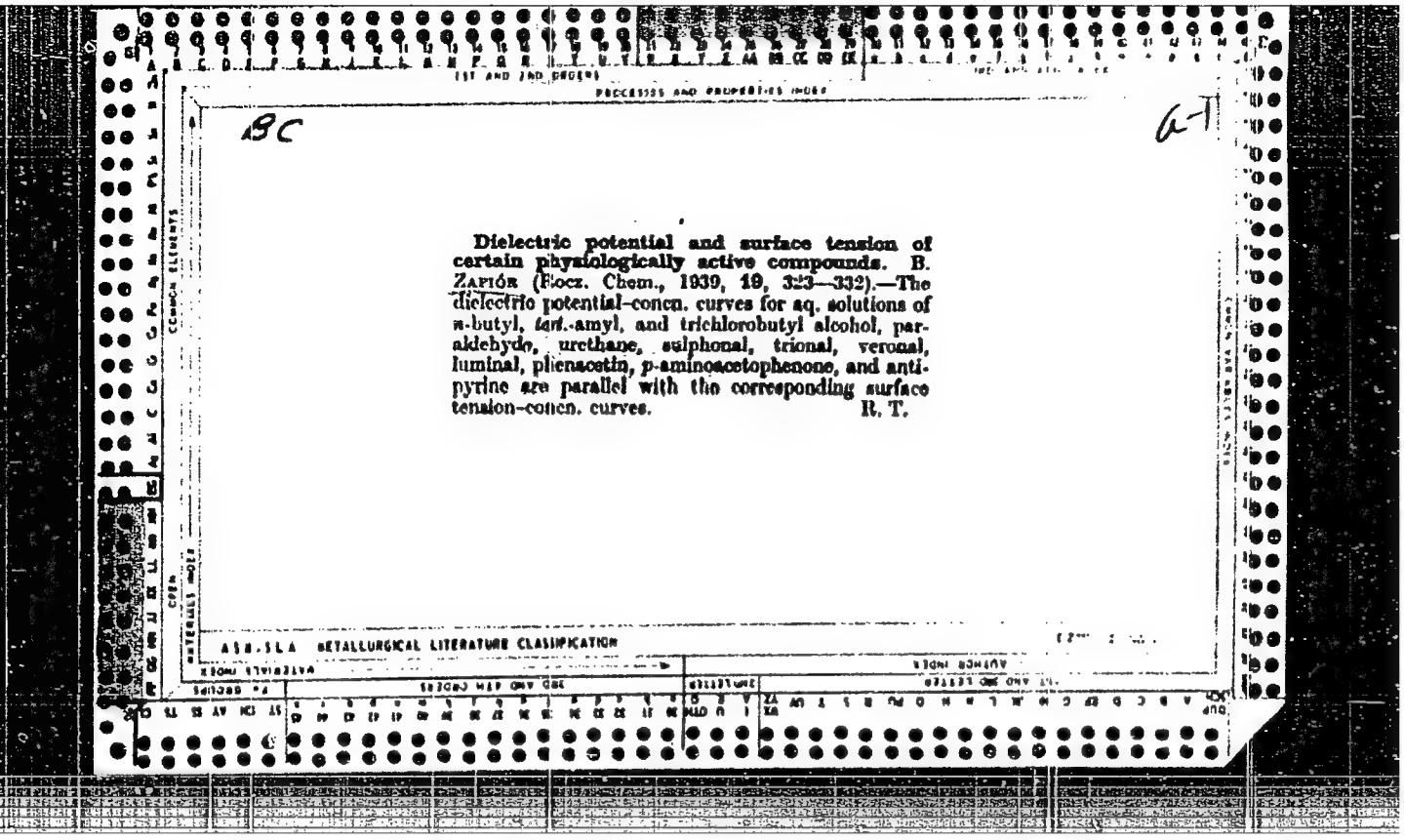
2

CA

Dielectric potential and surface tension of certain physiologically active compounds. B. Zapiór. *Roczniki Chem.* 19, 323-32(1939).—The dielec. potential-concn. curves for aq. solns. of butyl, *tert*-amyl and trichloro-butyl alc., paraldehyde, urethane, sulfonal, trional, barbital, phenobarbital, phenacetin, *p*-aminoacetophenone and antipyrine are parallel with the corresponding surface tension-concn. curves. H. C. P. A.



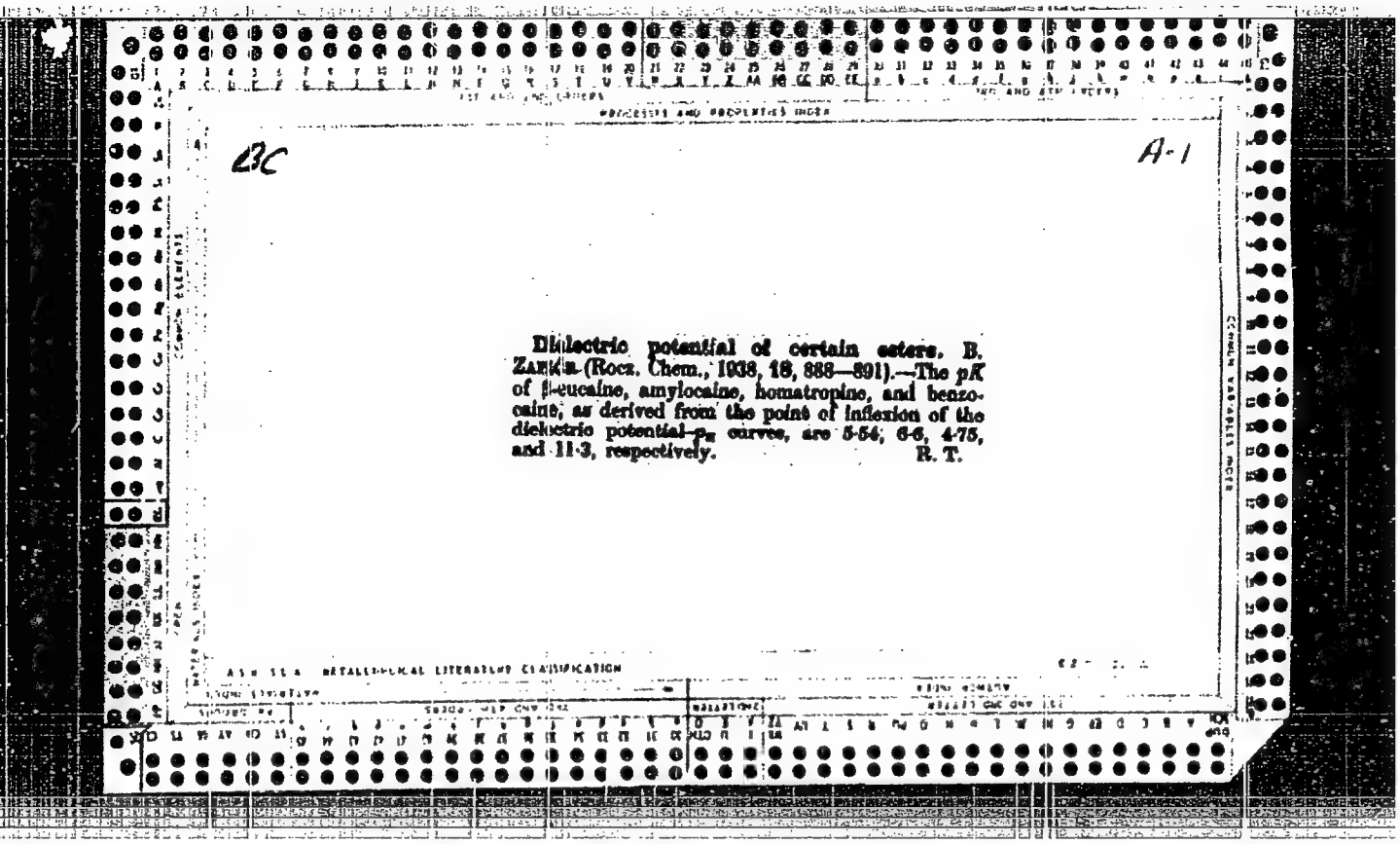
Dielectric potential of some esters. B. Zaplór. *Roczniki Chem.* 18, 888-96 (in German, 890-1) (1938).—Esters having basic groups of the type NH_2, NHR or NR_2 show great effect on the potential at the interface soln./air.
M. Wojciechowski



18C

A-1

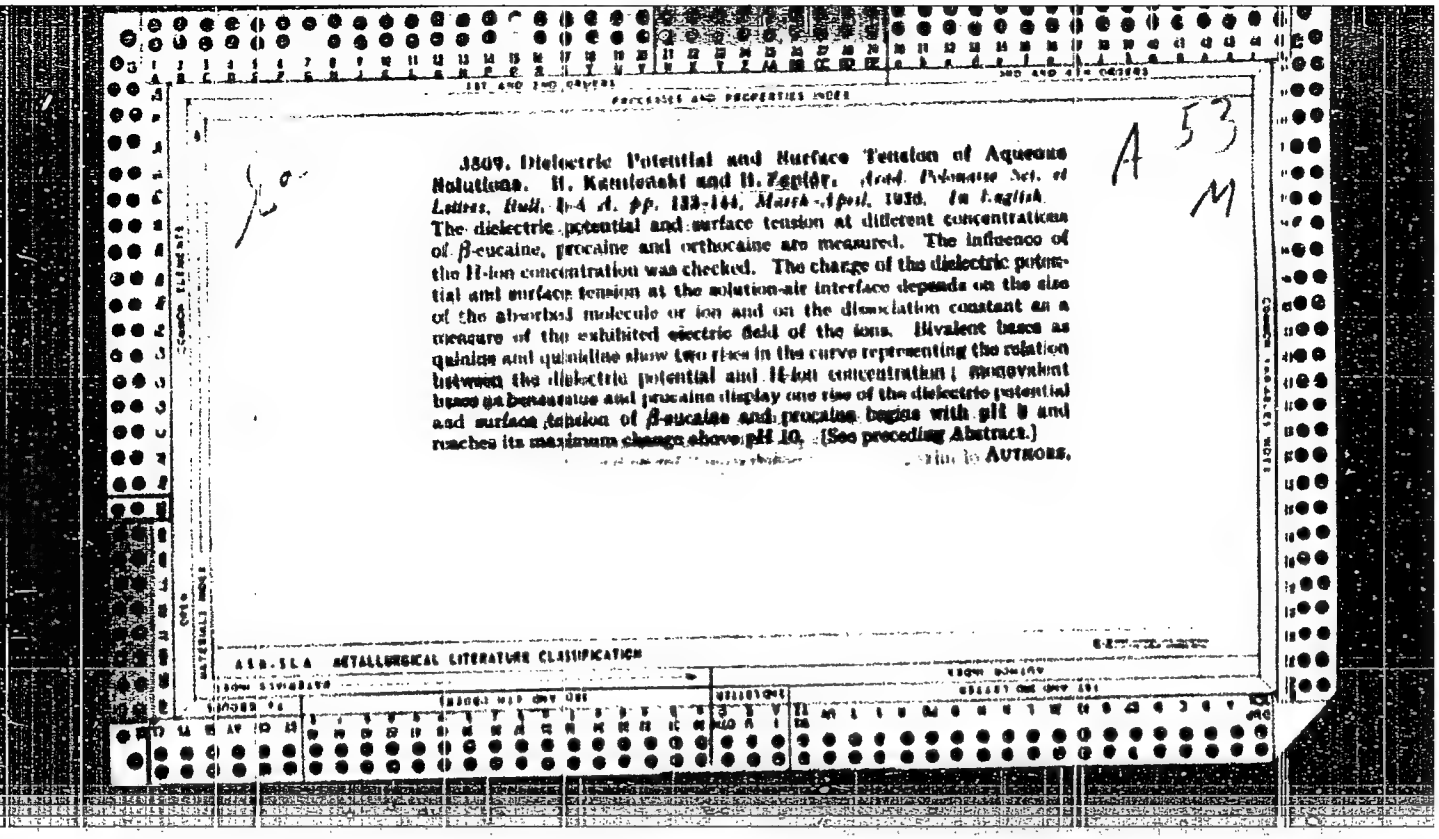
Dielectric potential and surface tension of certain physiologically active compounds. B. ZAPIÓR (Roczn. Chem., 1939, **19**, 323—332).—The dielectric potential–concn. curves for aq. solutions of *n*-butyl, *tert.*-amyl, and trichlorobutyl alcohol, paraldehyde, urethane, sulphonal, trional, veronal, luminal, phenacetin, *p*-aminoacetophenone, and antipyrine are parallel with the corresponding surface tension–concn. curves. R. T.



23C

A-1

Dielectric potential of certain esters. B. ZARIN (Rocz. Chem., 1938, 18, 888—891).—The pK of β-eucaine, amylocaine, homatropine, and benzocaine, as derived from the point of inflexion of the dielectric potential–p_H curves, are 5·54, 6·6, 4·75, and 11·3, respectively. R. T.



3509. Dielectric Potential and Surface Tension of Aqueous Solutions. H. Kamiyoshi and H. Zeglér. *Acad. Polonaise Sci. et Lettres, Bull. Int. A. pp. 133-144, March-April, 1936. In English.*
The dielectric potential and surface tension at different concentrations of β-eucaine, procaine and orthocaine are measured. The influence of the H-ion concentration was checked. The charge of the dielectric potential and surface tension at the solution-air interface depends on the size of the absorbed molecule or ion and on the dissociation constant as a measure of the exhibited electric field of the ions. Bivalent bases as quinine and quinaldine show two rises in the curve representing the relation between the dielectric potential and H-ion concentration; monovalent bases as benzocaine and procaine display one rise of the dielectric potential and surface tension of β-eucaine and procaine begins with pH 9 and reaches its maximum change above pH 10. (See preceding Abstract.)
—Author's Abstract.

A53
M

ASB.SLA METALLURGICAL LITERATURE CLASSIFICATION

ZAPIRICH, T., red.; CHEPUSHTANOVA, G., tekhn.red.

[City traffic regulations] Pravila ulichnogo dvizheniia. Barnaul, Altaiskoe knizhnoe izd-vo, 1959. 127 p. (MIRA 13:6)

(Traffic regulations)

YAREMCHUK, Ivan Fedorovich,; ZAPIRICH, T., red.; GRIN', Ye., tekhn.red.

[Handbook for rural builders] Spravochnik sel'skogo stroitelia. Izd. 2., ispr. i dop. Barnaul, Altaiskoe knizhnoe izd-vo, 1958. 355 p. (MIRA 11:12)

(Building)

AUTHOR: Zapirov, R.Kh. (Rostov/Don) 20-119-3-7/65

TITLE: Systems of Complete Singular Integral Equations of Convolution Type (Sistemy polnykh osobykh integral'nykh uravneniy tipa svertki)

PERIODICAL: Doklady Akademii Nauk, 1958, Vol 119, Nr 3, pp 429-432 (USSR)

ABSTRACT: The author considers the system

$$lf \equiv f(x) + \frac{1}{\sqrt{2\pi}} \int_{\Gamma} a(x-t)f(t)dt + \frac{1}{\sqrt{2\pi}} \int_{\Gamma} b(x-t)f(t)\operatorname{sgn} t\, dt + Tf = g(x)$$

where Γ is the real axis and the system $l^*\varphi = g(x)$, where l^* is the operator adjoint to l. The theorems of Noether ($lf = 0$ has finitely many linearly independent solutions only etc) hold for the considered systems. The main result of the author consists in the proof that each solvable system of the considered type admits an equivalent regularizator, i.e. there exists an operator p so that $plf = pg$ is a Fredholm equation equivalent to $lf = g$. The proof of the existence of p is carried out constructively, so that one obtains an explicit expression for p. There are 6 references, 5 of which are Soviet,

Card 1/2

ACCESSION NR: AP4017398 S/0185/64/009/002/0196/0206

AUTHOR: Zapisochny*y, I. P.; Zhukov, I. G.; Garga, I. I.; Vuksty*ch, V. S.

TITLE: Vacuum monochromator for the investigation of optical excitation functions

SOURCE: Ukrayins'ky*y fizy*chny*y zhurnal, v. 9, no. 2, 1964, 196-206

TOPIC TAGS: vacuum ultraviolet, vacuum ultraviolet spectroscopy, resonance level excitation cross-section, excitation cross-section, resonance radiation, ultraviolet monochromator, vacuum monochromator, electron beam excitation tube, mercury resonance lines

ABSTRACT: There are practically no data at present on the effective excitation cross sections of resonance levels of atoms, diatomic molecules and their ions of various multiplicity, owing to experimental difficulties in the vacuum ultraviolet region of the spectrum.

To obtain such data the authors have constructed a spectrophotometric set-up, consisting of three basic units: a vacuum monochromator of normal incidence with a one-metre (600 lines/mm) standard concave diffraction grating;

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ACCESSION NR: AP4017398

highly monoenergeric electron beam excitation tubes; an electrophotometer using a secondary electronic multiplier (SEM) in a pulse counting regime for recording radiation in the vacuum ultraviolet region.

The monochromator was designed so that the refraction grating and rigidly attached input and output slits are always on the Rowland circumference. Transmission of movement in the vacuum is accomplished through bellows, while the kinematic system ensures linearity of the graduated graph throughout the working region (800-3500 A).

The luminous vertical gas column in the excitation tube may be precisely set on the input slit under control of a distance gauge consisting of two telescopes, for which the possibility of moving part of the monochromator housing from the input slit is provided. This permits the maximum utilization of the light power of the monochromator (the loss in resolving power is negligible, since the intervals between the spectral lines are considerable for most objects).

The open type SEM, together with the voltage divider and the cathode repeater are located directly behind the output slit of the monochromator in a special shell. The pulse count is taken with the aid of a standard «Tulip» velocity meter.

Card 2/4

ACCESSION NR: AP4017398

The block diagram and the external appearance of the spectrophotometric set-up are shown in the appended drawings.

In conclusion, tentative data are given on the excitation functions of mercury lines λ=1850 Å (Hg I) and λ=1942 Å (Hg II).

Orig. Art. has 10 figures including several schematics and block diagrams

ASSOCIATION: Uzhgorods'ky*y Derzhuniversy*tet (Uzhgorod State University)

SUBMITTED: 11Jul63 DATE ACQ: 19Mar64 ENCL: 01

SUB CODE: PH, SD NO REF SOV: 009 OTHER: 002

Card 3/4

34433
S/185/61/006/006/011/030
D299/D304

24.3500 (1137,1138)

AUTHORS: Zapisochnyy, I.P., Kyshko, S.M., Shevera, V.S., Fel'tsan, P.V., and Shimon, L.L.

TITLE: Spectroscopic investigation of excitation functions of atoms and molecules

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 6, 1961, 770 - 773

TEXT: The experimental apparatus included a spectral device for separating the lines and bands, an electrophotometer with a photomultiplier, and tubes filled with gas and vapor. The experimental apparatus was described in detail in the references. It is noted that recording devices of high sensitivity were required; this was achieved by using a photomultiplier with a d.c. amplifier instead of a photographic plate. Another requirement which had to be met was homogeneity of the electron beam. In the references it was found that among secondary processes which cannot be neglected, cascade transitions have a considerable effect on the spectral lines of atoms. This fact was confirmed by the present investigation,

Card 1/3

S/185/61/006/006/011/030
D299/D304

Spectroscopic investigation of ...

conducted by the method of electron collisions. The excitation functions of cadmium-, natrium- and neon atoms were studied in detail, as well as those of diatomic nitrogen molecules and of nitric oxide and carbon monoxide. The measurements were conducted in the visible region of the spectrum, and for cadmium in the ultraviolet. A figure shows the following excitation functions of atoms: Na (λ = 5890, 5896 Å), Ne (λ = 5852 Å) and Cd (λ = 5086 Å). The investigated excitation function are characterized by the presence of several maxima, i.e. by fine structure (mainly due to the cascade transitions). The following excitation functions of diatomic molecules were investigated: of the second positive system of N_2 molecules and of the Ångstrom system of CO molecules, of the negative system N_2^+, of the comet system CO^+, and of a NO^+ system. A figure shows the excitation functions of the band of the second positive N_2 system, of the CO^+ system and of the NO^+ system, for electron energies between 10 and 150 ev. Whereas the excitation functions of bands of neutral molecules are of ordinary shape, those of molecular ions are of a complex structure, i.e. have several maxima. The most likely reason for the complex structure are

Card 2/3

Spectroscopic investigation of ...

elementary processes of dissociation and ionization of molecules, followed by recombination; the latter leads to a jumplike increase in the concentration of the ionic state. Such an interpretation of fine structure is supported by additional facts. Another figure, showing the excitation function of the N_2^+ band, illustrates the contribution due to the elementary processes, for various electron energies. There are 3 figures, 1 table and 8 references: 7 Soviet-bloc and 1 non-Soviet-bloc (in translation).

ASSOCIATION: Uzhhorods'kyy derzhuniversytet (Uzhhorod State University)

Card 3/3

ZAPISOTSKIY, N.

New machines of the Moscow Agricultural Machinery Plant. Trakt.i sel'khozmash. 31 no.2:33-34 F '61. (MIRA 14:7)
(Agricultural machinery)

ZAPISOTSKIY, N.I.

Semiautomatic line for assembling and riveting bush-roller chains.
Biul.tekh.-ekon.inform. no.9:17-18 '60. (MIRA 13:10)
(Machinery, Automatic)

ZAPISOTSKIY, N.I., inzh.

PRUT-3,0 fertilizer spreader. Trakt. i sel'khozmash. no.12:35 D '59. (MIRA 13:3)

1.Mossel'mash.
(Fertilizer spreaders)

ZAPISOV, M.

Repairing the synchro-mesh transmission of the MAZ-200 automobile. Avt. transp. 34 no.6:24 Je '56. (MLRA 9:9)

(Automobiles--Transmission devices)

L 4996-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) IJP(c) BC

ACC NR: AP5025753 SOURCE CODE: UR/0286/65/000/018/0017/0017

AUTHORS: Zapisov, M. A.; Baginskiy, A. N. 31

ORG: none B

TITLE: A hydropneumatic cylinder of asymmetric action. Class 47, No. 174921

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 18, 1965, 117

TOPIC TAGS: hydraulic device, pneumatic device, valve

ABSTRACT: This Author Certificate presents a hydropneumatic cylinder of asymmetric action. The cylinder contains a piston with an internal valve, an adjusting ring, and a spring. The cylinder consists of a working pressure chamber and an overflow chamber (see Fig. 1). To secure automatic control of the piston movement without introducing an auxiliary unit for moving the valve and to simplify the construction, the valve is made cylindrical, operates with two plungers, and is connected to the stem of the piston by a ring with a bolt. The bolt enters the slot of the piston and is spring-connected to an adjusting screw placed in the cover of the piston. To obtain a broader adjustment of the amplitude and frequency of piston

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UDC: 621-229.384.325

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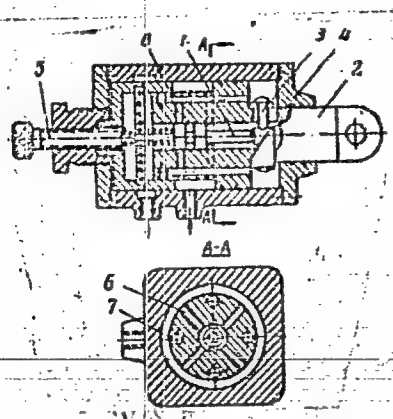

Fig. 1. 1- valve; 2- plunger stem; 3- bolt; 4- piston cover; 5- adjusting screw; 6- two rows of radial apertures; 7- longitudinal ducts; 8- dead-end radial apertures

oscillations and to increase the effectiveness and productivity of the system, a differential hollow piston is provided with two rows of radial apertures and longitudinal ducts. On one side these ducts lead to the end of the piston, and on the other side to the internal surface through dead-end radial apertures. Orig. art. has: 1 figure.

SUB CODE: IE/ SUBM DATE: 03Jan64

Card 2/2

SAKHARIYEV, Sembay; ZAPIVAKHIN, A., red.; BELOVA, N., tekhn. red.

[Economic efficiency of supplying water to pastures] Ekonomicheskaia effektivnost' obvodneniia pastbishch. Moskva, Sel'khozizdat, 1963. 118 p. (MIRA 16:5)
(Pastures and meadows--Irrigation)
(Water supply, Rural)

KOLESNEV, S.G., akademik, red.; ZAPIVAKHIN, A.I., red.; LAPIDUS, M.A., red.; RAKITINA, Ye.D., red.; TIKHONOVA, Ye.M., red.; DEYEVA, V.M., tekhn. red.

[Specialization and size of agricultural enterprises] Spetsializatsiia i razmery sel'skokhoziaistvennykh predpriiatii. Pod red. S.G.Kolesneva. Moskva, Sel'khozizdat, 1963. 382 p. (MIRA 16:7)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Kolesnev).

(Farm management)

TIKHONOV, Vladimir Aleksandrovich, kand. ekon. nauk; ZAPIVAKHIN, A.I., red.; BALLOD, A.I., takhn. red.

[Economics and the organization of the utilization of machinery on collective farms]Ekonomika i organizatsiia ispol'zovaniia tekhniki v kolkhozakh. Moskva, Sel'khozizdat, 1963. 261 p. (MIRA 16:4)

(Farm mechanization)

SAVI'SKIY, Leopol'd Mikhaylovich; FOKIN, D.P.; KLIMENTOVA, A.V.; OVCHINNIKOV, V.V.; VAYNSHTEYN, I.S.; ZAPIVAKHIN, A.I., red.; PROKOF'YEVA, L.N., tekhn.red.

[Economic effectiveness of land improvement] Ekonomicheskaia effektivnost' melioratsii zemel'. Moskva, Gos.izd-vo sel'khoz. lit-ry, 1960. 143 p. (MIRA 13:10)
(Reclamation of land)

ZMIYENKO, Petr Yakovlevich; SPASIBIN, Ivan Ignat'yevich; ZAPIVAKHIN, A.I., red.; TRUKHINA, O.N., tekhn. red.

[Agriculture of the German Democratic Republic] Sel'skoe khoziaistvo Germanskoi Demokraticheskoi Respubliki. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1961. 165 p. (MIRA 14:7)
(Germany, East—Agriculture)

KOTOV, P.F., kand.sel'skokhoz.nauk, glavnyy red.; ALEKSANDROV, N.P., kand.sel'skokhoz.nauk, red.; KARPENKO, V.P., red.; KVASNIKOV, V.V., prof., doktor sel'skokhoz.nauk, red.; KORGL'KOV, V.I., prof., red.; PODGORNYY, P.I., prof., red.; SKACHKOV, I.A., kand.sel'skokhoz.nauk, red.; ZAPIVAKHIN, A.I., red.; KALASHNIKOVA, V.S., red.; GUREVICH, M.M., tekhn.red.

[Farm management system in the Central Black Earth Region] Sistema vedeniia sel'skogo khoziaistva v TSentral'no-chernozemnoi polose. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1961. 470 p. (MIRA 14:4)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I.Lenina. 2. Zamestitel' direktora Instituta sel'skogo khozyaystva imeni V.V.Dokuchayeva (for Kotov). 3. Direktor filiala po TSentral'no-chernozemnoy polose Vsesoyuznogo nauchno-issledovatel'skogo instituta ekonomiki sel'skogo khozyaystva (for Aleksandrov). 4. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Kvasnikov). 5. Voronezhskiy zoovetinstitut (for Korol'kov). 6. Voronezhskiy sel'skokhozyaystvennyy institut (for Podgornyy). 7. Direktor Nauchno-issledovatel'skogo instituta sel'skogo khozyaystva TSentral'no-chernozemnoy polosy imeni V.V. Dokuchayeva (for Skachkov).

(Central Black Earth Region--Agriculture)

POL'SHCHIKOV, Aleksandr Ivanovich; ZAPIVAKHIN, A.I., red.; PEVZNER, V.I., tekhn.red.

[Technical progress in agriculture] Tekhnicheskii progress v sel'skom khoziaistve. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 118 p. (MIRA 13:6)

(Agriculture)

15-1957-10-13533

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10, p 9 (USSR)

AUTHORS: Zapivalov, N. P., Ryabukhin, G. Ye.

TITLE: The Geological Section of the Carboniferous and Permian of an Area in Western Bashkiriya (Geologicheskiy razrez karbona i permi odnoy iz ploshchadey Zapadnoy Bashkirii)

PERIODICAL: Nauchn. raboty stud. Sverdl. gorn. in-t, 1957, Nr 3, pp 15-21

ABSTRACT: Bibliographical entry

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VOLOVCHENKO, Ivan Platonovich, Geroy Sotsialisticheskogo Truda; ZAPIVAKHIN, A.I., red.; TRUKHINA, O.N., tekhn. red.

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1. Direktor sovkhoza "Petrovskiy" Lipetskoy oblasti (for Volovchenko).

(Field crops)

KOVALENKO, Mikhail Ivanovich, Geroy Sotsialisticheskogo Truda; ZAPIVAKHIN, A.I., red.; PEVZNER, V.I., tekhn. red.; SOKOLOVA, N.N., tekhn. red.

[Thoughts of a collective-farm chairman] Dumy predsedatelia kolkhoza. Moskva, Sel'khozizdat, 1962. 141 p. (MIRA 16:11)

1. Predsedatel' kolkhoza "Pamyati Lenina" Cherkasskoy oblasti(for Kovalenko).
(Collective farms--Management)

KAVUN, Vasiliy Mikhaylovich; ZAPIVAKHIN, A.I., red.; GUREVICH, M.M., tekhn. red.

[Bibber payments for better work] Bol'shaia oplata za luchshii trud. Moskva, Izd-vo sel'khoz. lit-ry, zhurnalvo i plakatov, 1961. 46 p. (MIRA 14:9)

1. Predsedatel' kolkhoza im. Stalina Bershadskogo rayona Vinnitskoy oblasti (for Kavun).
(Collective farms—Income distribution)

BETEREV, M.M.; BOL'SHOV, M.M.; ZAPIVAKHIN, A.I., red.; RAKITINA, Ye.D., red.; PROKOF'YEVA, L.N., tekhn. red.

[Handbook on safety measures in agriculture] Spravochnik po okhrane truda v sel'skom khoziaistve. Moskva, Izd-vo sel'khoz. lit-ry, zhurnalov i plakatov, 1961. 559 p. (MIRA 15:2)
(Agriculture—Safety measures)

ARENT, Yuriy Gustavovich [Arent, J.]; TSALITIS, A.A.[Calitis, A.], aspirant; ZAPIVAKHIN, A.I., red.; SOKOLOVA, N.N., tekhn. red.

[School of progressive practice] Shkola peredovogo opyta. Moskva, Sel'khozizdat, 1962. 150 p. (MIRA 15:6)

1. Direktor oporno-pokazatel'nogo khozyaystva "Vetsautse" Dobel'skogo rayona Latviyskoy SSR (for Arent). 2. Latviyskaya sel'khozyaystvennaya akademiya (for TSalitis).
(Dobele District—Agricultural experiment stations)

KHOLMOVOY, Mitrofan Petrovich; ZAPIVAKHIN, A.I., red.; DEYEVA, V.M., tekhn.red.

[Make use of resources wisely] Razumno ispol'zovat' rezervy. Moskva, Izd-vo sel'khoz.lit-ry, zhurnalov i plakatov, 1961. 86 p. (MIRA 15:2)

1. Sekretar' Belorechenskogo rayonnogo komiteta Kommunisticheskoy partii Sovetskogo Soyuza (for Kholmovoy).
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